## **NOTICE**

All drawings located at the end of the document.





## INTEROFFICE CORRESPONDENCE

DATE:

August 28, 1995

TO:

Distribution

FROM:

Rick Roberts, Technical Support, Remediation Services, X8508

FAX# 966-8556, Cubicle #315

SUBJECT:

STRATEGY FOR PROCEEDING WITH THE 903 PAD AND WINDBLOWN

SOILS IM/IRA - RSR-002-95

ACTION:

Review letter and attachments and attend meeting on August 31

The attached letter outlines the volume of surficial soils that will need to be remediated at the 100 and 15 millirem radiation dose limits at and near the 903 Pad. Acceptable concentrations of radioactive material were calculated using an office worker exposure scenario for areas inside the industrial area fence and an open space exposure scenario for areas outside of the industrial area fence. Assumptions from the RFI/RI Report from OU 2 were used in these calculations. Given the findings of the attached letter, there are two ways to proceed with the 903 Pad and Windblown Soils IM/IRA. These are:

- 1) Propose no action for the area since the 100 millirem limit is not exceeded for the given exposure scenarios.
- 2) Propose remediation at the 15 millirem proposed radiation dose standard to be compliant with requirements to be promulgated in the near future.
- 3) Propose remediation of soils underneath the 903 Pad based on erosional problems at the pad.

A meeting is scheduled to be held at Interlocken in the small east conference room on Thursday, August 31 at 2PM to discuss how to proceed with the 903 Pad and Windblown soils IM/IRA. I look forward to meeting with you and coming to a mutually agreed upon strategy for proceeding with the IM/IRA.



ADMIN RECORT

1

Attachment: As Stated

Distribution:
Susan Evans
Gary Guinn
Linda Guinn
John Hopkins
Gary Konwinski
John Law
Annette Primrose
John Schmuck
ERPD Records File (2)

1700 Broadway, Suite 900 • Denver, Colorado 80290 • (303) 830-6190 • Fair (303, 821-8208

August 24, 1995

Mr. Rick Roberts
Rocky Mountain Remediation Services
Technology Support
P.O. Box 464, Building 080
Golden, CO 80402-0464

Subject:

Submittal of the Contaminated Soil Volumes

Dear Mr. Roberts:

Enclosed is a revision to the calculation of areal extent and quantity of contaminated surface soil in the vicinity of the OU2 903 Pad Drum Storage Area. This revised calculation incorporates the modified concentrations that would equate to a 15 mrem and 100 mrem annual dose from radioactivity. The results of this analysis indicate that at the 100 mrem risk level, there are no contaminated soils in the vicinity of the 903 Pad Drum Storage Area (excluding the covered 903 Pad soils). Therefore, the no-further action and institutional control alternatives appear to be the most appropriate under this 100 mrem scenario.

Under the 15 mrem scenario, Americium-241 is a contaminant of concern for approximately 3.1 acres which results in a volume of 3,280 cubic yards. This volume does not include the volume of contaminated soils beneath the 903 Pad Drum Storage Area.

The volume of soil beneath the 903 Pad Drum Storage Area has been previously calculated at 23,740 cubic yards. This volume of soil may need to be remediated based on the erosional problems that occurred in the spring of 1995, and the RMRS goal to conduct a final remedial action through the IM/IRA program.

Therefore, the range of volume estimates is from approximately 3,000 cubic yards to 30,000 cubic yards for the 15 mrem alternative depending upon whether remediation of the 903 Pad Drum Storage Area is included with remediating the hillside surface soils. Under the 100 mrem scenario, the volume is approximately 24,000 cubic yards if final remediation of the 903 Pad Drum Storage Area is desired.

The topic concerning the inclusion of the 903 Pad Drum Storage Area volume in the detailed analysis of alternatives should be discussed at your earliest convenience.

(I:\PROJECTS\726922\18.WPF\08/28/95)





Mr. R. Roberts August 24, 1995 Page 2 of 2

Please feel free to call me at (303) 831-8100 if you have any questions.

Sincerely,

PARSONS ENGINEERING SCIENCE, INC.

Richard M. Millikin

Project Manager, CMS/FS Phase II

cc:

- J. Hopkins, RMRS
- G. DeWeese
- J. Hartfelder
- S. Hughes
- M. Glade
- R. Lux
- E. Millikin
- P. Nixon
- T. Shangraw
- R. Wilkinson
- S. Woolfolk

Central Files

## PARSONS ENGINEERING SCIENCE, INC.

Client FMIN JOD NO. 12018 Sheet J of J
Subject Ouz In/INA - CONTAMINAND By EF KENIN JA. Date 23 AUG 95

SURFACE SOIL VOLUME ESTIMATIS Checked SR HUGHES Rev. 2

PURPOSE : RECALCULATE VOLUMES PER CHANGES IN DOSE EQUIVALIENTS

EXCAUNTION DEPTILS.

903 PAID 40 CM 903 LID 20 CM BUFFER 2014 15 CM

NEW DATA (pci/g):

15 Mrom

100 mrom

PL 239 AM 241 PL 239 AM 241

OFFICE WORKER 1,600 140 11,000 940

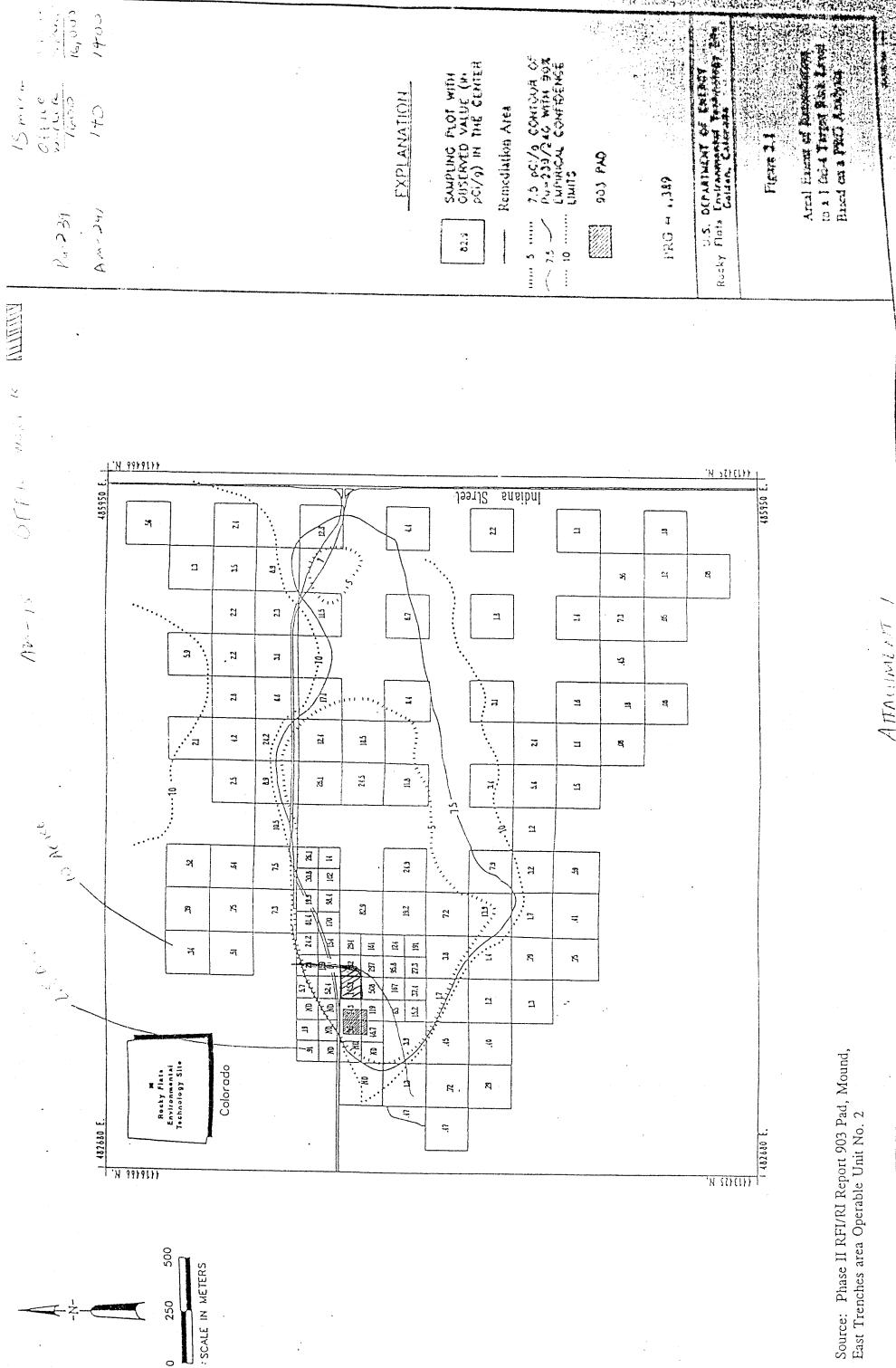
OPEN SPACE 16000 1400 11000 3600

ATTACHMENTS I AND Z DISPLAY THE AREAL EXTENT OF SOILS
TO BE REMOVED. NO PU-239 EXCEEDENCES WERE IDENTIFIED.
Approximately 3,1 Acres of office worker soils exceeded 15 mrem
AM-241 levels. No exceedences were IDENTIFIED FOR 100 Mrem
AM-241 levels.

Total Volume of Soil TO Be Removed from 903 PAD (CubicyARDS) =

(311 Acres) (435 m) +62 ) (20cm) (11 / 154 ) (154) = 3080 Cy

Acres (254cm) (12in) (27/143) = 3080 Cy



AM-15 (office ) MITHIN

Rocky Flats Surface Soil Sampling Plot Locations		Pavod roads  Pavod roads  Discourse and home present by  Discourse the be. 1881  Ministration of the best of the b	(b'88')) s-q	. ~	10001	Figure 2.5  U.S. Department of Energy Rocky Flate Environmental Technology Site  Rocky Flate Environmental Technology Site	*
7.714.114 17.714	57.00 13.17 30.78 26.10 2.07 5.96 5.94	47.78 31.00 101.86 13.97 8.16 13.53 2.17			28.00 24.87	3.21	
	19.09 61.37 4.15 6.83	120.00 108.b3 88.36 20.92 15.40	200.002 82.88	718+01	8.40 19.18	5.06	
	24.23	280,80° (5 18,30° (5 28,34	1300.60 284.20 284.19	160 BO	123.80 9.50	28.00 191.10 4.68	
	52.87 72	138/03	307.30	23,80.00	57, 6700.00 96.83 14.74	17.62 27.27 3.97 3.86	
	6.73	62.30	11090.00 71453.00 184.60 2270.40	950.00	280.00 18.710 27.88	4.77 37.40 0.64 3.41	
			120.00 81.05 12.51	23.00	69.63 64.97. 10.53	38.78 15.1d 1.85	
Lancin	W. (6.3)		29.90 3.20 2.25	21.16  6 46.72 2.07 8.07	3.83	D.02	11 111

34- pm/1-me and me step)

10

12.3

SEAT SEAT

STORY SHOP STORY	:U ON EXISTING PRICEQUAT. EQUAT	TONS LISED FOR	NOT COMPLY WITHE	OE ORDER 3400.5 MET	HODOLOGY, THIS CAL	CUCATRON IS HAVE	UNKERS PACE	O P Q R X V Y Y Y AA
	DELICHMINING ACTION LEVEL FOR CHEMICALS.		N DETERMINING ACT	ON LEVEL FOR CHEMIC	ALS.			
		ASS	SUMPTIONS					
		CI	CT VALUE	R	RME VALUE			
7 VARIABLE DESCRIPTION	N UNITS	OFFICE WORKER	OPEN SPACE 2	VARIABLE DESCRIPTION LI	STIMU		OPEN SPACE	
EXPOSURE FREQUENCY	DAYS/YR EF	219		$\sqcap$		WORNER	ADULTICHILD	
10 EXPOSURE TIME	hriday	7.2	2 15		Y.R	250	25	
DAILY INHALA RATE				DAILY INDOOR	hriday ET	80	50	
EXPOSURE DURATION	YR ED	0.63	0.83		m3hr IRa	0.83	*1	0,00
PARTICULATE				PARTICULATE YES	rR ED		-	726 79
SOIL INGESTION		7.20€+07	7.20E+07		m3/kg PEF	7.20E+07	7.20E+07	OLK ON THE B
FRACTION SOIL FROM	IL mg*YRDAY IF	50	88	RATE FRACTION SOIL	mg YR/DAY IF	8	8	Co. 2 ONTE-X122195
CONTAMINATE	FSCS	-	-	CONTAMINATE D SOURCE	S	•		
GAMMA SHIELDING FACTOR	DING	0.5	0.2	SHIELDING				
GAMMA EXPOSURE FACTOR	SURE			EXPOSURE	<i>8</i>	0.2	0	
DOSE GOAL	mrenyYR	1 81	1 001					
RESPIRABLE FRACTION	RF	-	_	RESPIRABLE	mrem//R dDG	001	100	
RESPIRATORY				NO CONTRACTION	RF			INHAATIO
FACTOR	RDF	0.85	0.85	DEPOSITION FACTOR		Manhagen as also as a second		INHALATION II SESTION MEPA EPA DOSE EPA DOSE DOSE FACTOR
INGESTION RATE SURFACE	w		1.1	INGESTION RATE SURFACE				E (SwBq) (SwBq) (cerrbcc) (cerrbcc)
WATERWADING	L/hr iRW	0	0	WATERWADIN G WADING	IRW	0	0	
RATE		0	0.5	WATER EXP	Driving OR boths.			6.33E-02 1.40E-03 3.08E-02 5.18E-02
WADINGSURFACE EXPOSURE FREQUENCY	visityear OR davstvr			WADING/SURF CE EXPOSURE MSILV	visitivear OR	0		Pu-240 8.33E-05 1.40E-0 3.08E-02 5.18E-02
WATER TO SOIL CONTAMINATION			5	FREQUENCY days WATER TO SOIL	Yr WRF	0	15	Am241 1,20E-04 9.84E-07 4,44E+02 3.54E+00
THIS NUMBER WOULD NO THE PEF WAS CALCUI	ORMALLY VARY AS A FUNCT	ION OF WORK AC	1 E CTIVITIES AND SITE C	CONTAMINATIO N RATIO ONDITIONS, TYPICAL	WSCR COONE LISTING OCCURS	1	gan	
	EFFE	CTIVE DOSE EQU	CENTRATION AND THE	E AIR CONCENTRATION	N BASED ON MODELIN	DISCUSSED IN TH		1 H 1 H 1 H 1 H 1 H 1 H 1 H 1 H 1 H 1 H
RADIONUCLIDE Pu-239 Pu-240 U-334	Pu-239 Pu-240			A TOAKS) (PENVICI)		Evite		NOTE: PUZNOZNI NHAGATON ZNID INGEZIKOT DOSE HUCKIS ZNE BASED ON TIMITING VALVEC C. INTAKE / 19 AN COLICE LIFE FON AND
INFALATION	100 6		The second secon	n	m-234	Am-241 U.23	35.12 m 20.12	SUCE THE OTHER TANDONICULIES ARE KNOWN TO 11)
INGESTION	5.18E-02 5.18E-02	1 30E+02 2 60E-02			120 0.00E+00 2.30E-01 0.00E+00	4.44E+02 3.64E+00	1.20E+02 0.00E+00 2.50E-01 0.00E+00	THEY ARE STILL BASED UN DOBERHOOT. NOTE, THE DIFFERENCES ARE NOT ACTUALLY SIGNIFICANT.
EXTERNAL SURFACE	3.48E-06 7.54E-06.	7.42E-06				(remyr)/(p	(pCi/g)	
			UPTAKE CHARACTERISTICS	3.	9.89E.05 NA	275E-04	1.75E-03 NA	
		1.00E-03		ELEMENT PLUTONIUM AMERICALIA	ENT			A A A A A A A A A A A A A A A A A A A
William Street							enten kons	
							_	

AB		8		757												<del>-  .</del>
¥.		3 <b>3</b> €		77 42,	22/9											
2		RADIOLOGICAL PROGRAM	<u>م</u>	Ē	E E	1							+			
<b>,</b>		TOGICAL P	ö	Z BATE		מון	1									
×		DIOLOG		1 ×	19 20 20 20 20 20 20 20 20 20 20 20 20 20	16	7				+		-			
3				MOOITS	EBITIC D	-			+						+	
		all	PAGE	SW. WOOLF			+					- 3			- -	
					-							 -, . <del>;</del>				
					Ц.							- 1			4 may 2 may	
-   -																
S													Sec.	Ŝ		
œ						OPEN SPACE	1.14E+05 1.07E+05	2.17E+05 3.90E+03	9.56E+03	T 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			0534	e aprile de la come		
a						NEGO		3.55E.04 1.06E-04 6.67E-04 2.50E-02 6.37E-04 1.41E-03	6.54E-03 3.93E-03			- 0,	*(Sind south (Sind Mile) 50351) **SK\$0*50534*			
đ					FOR RME		8.27E-04	3.55E.04 6.67E.04 6.37E.04	6.54E-03	-			Men talen	3		
0				Ti		OFFICE WORKER	1.19E+04 1.10E+04	2.14E+04 3.07E+02 4.22E+03	9.43E+02				8V/XN-S			#
z					PRG CALCULATION	1	6.35E-04 1.38E-03	1.36E-03 3.19E-01 1.81E-02	5.02E-02			**(*F\$Q\$*\$P.1918)+0830*(\$18)*	=\$K49*\$D\$34*			+
M PA HAGS					- B.		L	3.32E-03 1. 5.89E-03 3. 5.64E-03 1.	5.57E-02 5.0			0830+(8140	Š.			++
(SED ON E)	_    -				-  [	'a		r 40 40	3			1(5149*5				
ATION IS EA					0.000	RADIONUCLID E	Pu-239	U-234 U-238 U-238	Am-241			i.				
is cattou	BASED ON RME VALUES KX	L16)*L17* L10/24*10 00*L9/365		1.436.401				2 2 2	<b>4</b>			i <del>î -</del>		(58)*		
ת אסוומ	ASED ON R	2715970.00	336.	1.506-03	3010	OPEN SPACE	1.06E+36 9.98E+05	3.80E+04 2.85E+05	2.80E+04				1	-(\$G\$18)(\$H56+\$156)*		
Nyr goal 05 WETHOU CHEMICALS	3	-L59-L510-L511 -L519-L520-L512 "-L512-L5970.00 L513" 001-L514"	96.00	36.06			1.036-06	2.40E-03	3.77E-04			, i	J. C15) 3D53	(\$G		
ORDER SAD	<u> </u>	-4597451074311 12197452074512 743137		2.								BELOW	**(\$C50*\$D\$30+(\$D50*G15)*\$D\$31) **\$E50*\$D\$34*			
OUZ DOSE BASED PRGS based on BRA for 100 mremyr goal cidations and does not corply youth doe druben 3405 method equations used for determining action level for chemicals.			OFFICER WORKER	OPEN SPACE 2.48E-05 1.30E-03 1.43E-01			2.30E+04 8.98E-05	6.29E+02 2.33E-04 9.47E+03 2.15E-04	03 3.20E-0	Ž.		ARE SHOW	*(\$C50	E56+\$F56)*		
GS based OT COMPLY DETERMININ					CT.	E S		6.29E+I	7.95E+	The second second	o the dose.	DOMEONS,	*SD\$31)*	*(3F\$18)/(\$E56+\$F56)		
BASED PR NO DOES IN ISED FOR D					PRG CALCULATION FOR CT	10.5	6.795-04	1.57E-01	2.48E-02		contributor &	C I C I C	*(\$C49*\$D\$30+(\$D49*F15)*\$D\$31)*			
E DOSE DATIONS AT TO ATTIONS U		F\$12'(1- F\$16)'F\$17 'F10/24'10 *** 00'F9/365 *\$*	9.00€+01	1.37E+00 H	RG CALCUL	9 675 03	3.67E-03	1.68E-03	9.19E-03		uded in the c a significant	INE KOW SI	C49-\$D\$30+			
NG PRG EQI	Ž.	"=F\$12"(1- 0.000011F\$9 F\$16 "F\$17 F\$1024*10 14	1.10E-03 9.	8.60E-04 1.		$\vdash$	7 -				her is not incl	or o	***			
C D E F G H I I J K L L M  OUZ DOSE BASED PRGS based on BRA for 100 mremyr goal IS BASED ON EXISTING PRG EQUATIONS AND TODES NOT COMPLY WITH DOE ONDER SAGS METHOCOCIOGY. THIS CACCULATION IS BASED ON EPARAGS EQUATIONS USED FOR DETERMINING ACTION LEVEL FOR CHEMICALS.	ξ¥.	=	1.17E-05 1.	1.47E-07 8.						Company of the second s	rigestion of surface water is not included in the evaluation since, based on Baseline Risk Assessment it is not a significant contributor to the dose	MONTH OF THE STATE OF THE TOWN SECTIONS EQUALIONS ARE SHOWN BELOW.				
S IS BASED		**F\$9*F\$10*F\$11*F 9*F\$20*F\$12/F\$13*				RADIONUCLIDE PL738	<b>₹</b> ±	25 83 5 12		emerge company	50.00					
MOTE: THIS ANALYSIST	Z		ER ER	OPEN SPACE		₩ ₹ 2	Pr-240	U-238								
		BUSE											+			
7	22 24	<b>\\$</b>	2 2	8 2 2	8 इ	28 28	क्र झ	8 8 2	2	3 2 3	3 3	2 3	2 2	22	72	25

•

The same particular to the same of

THE CO MORN SUICE OF A NAME AND SUICE OF A SUICE OF SUICE

H G H I	SURFACE AND THERE IS NO CONTRIBTION FROM SOIL BELOW THIS DEPTH.	Soil Depth Soil Density 7:54E-06 (cm) (pCt/a)	5	1.75E-03	9.89E-05	2.75E-04	"=D39*; 000085"	(""CIT Square") I I I I I I I I I I I I I I I I I I I	DOSE FACTORS BASE ON VALUES IN DOE/FH-0070 FOR AREAL CONTAMINATION			
3   G	3.78E-02	8.20E-02	8.07E-02	1.90E+01	1.07E+00	2.99	"=17.1+C41"		DOSE F			
Э я	Pu-239	Pu-240	234	235 1.91	1.01	n-241	THORIUM PROGENY					
A	Pu-23	Pu-24	U-234	U-235	U-238	Am-241	-					
	. 1	l	1	,								

The state of the s

Marcheller   Mar	PAGE:  PAGE:  NNA. 726 562-  SW. WORKING CONTENTS  SW. WORK CONTENTS  SW. WORKING CONTENTS  SW. WORK CONTENTS  SW. W
646   7	NNA. 34 6 5 72 8 22 5 5 7 2 8 7 2 6 5 7 2 6 7 2
646   7	SAW WORNUN WED DATE FIZZ OS  VERIFIED COMP. DATE FIZZ OS  ROSESTON EPA DOSE  STRE 02  STRE 02
1,000   1,00	
	NeEsticn
NAMAZION INCESTION   NAMAZION INCESTION   E-	S 13E 22
NHALATION   INGESTICA   RADIOMUCID   EAR DOSE EPA DOSE   EAR DOS	INGESTON EPA DOSE FACTOR (remACL) 5 18E 02 5 18E 02 5 19E 02 5 19E 02 5 19E 02 6 5 19E 02
NWALATION INGESTICAN   NWALATION   NWALATION INGESTICAN   NWALATION   NWAL	S 13E 02  5 13E 02  5 13E 02  5 13E 02
NHALATION   INGESTION	ingestron EPA DOSE FACTOR (remAc)  5.19E.02  3.14E.02
WHALTTON MASSTON   RADIONUCLID   PAZ DOSE   EPAZ DOSE   PAZ DOSE	indestron EPA DOSE FACTOR (remAc) 5.18E.02 3.18E.02
INHALATION INGESTICA-    EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE   EAA DOSE   EAA DOSE   EAA DOSE     EAA DOSE	HGESTON EPA DOSE FACTOR (remACL) 5 18E 02 5 18E 02 7 1717700000
NHALATION INGESTION INGE	##GESTION EPA DOSE [FAT DOSE [FAT DOSE [remb/Ci] [remb/Ci] [1.12.17700000000000000000000000000000000
PP. 239  PP. 239  PP. 240  PP.	5.18E.02 5.18E.02 
Pu-210   8-33E-05   1-40E-09   Pu-210   8-33E-05   1-40E-09   Pu-210   8-33E-05   1-40E-09   Pu-210   Responsibility   Resp	5.18E.02 5.19E.02 7.721.7700000
Am-241 1.20E-04 9.64E-07  BASED ON "LUMITING VALUES OF INTAKE ARED ARE CURCENTEAR CONFERSION PACING FOR INHALATION, SUBMERS,	3.64E+
AND	000 7-121-370000 6-1-21-3700000
NOTE: FJANDAMINHALSTOR MUNIANDESTION DOSE FACTOR  BASED ON 'LIMITING VALUES OF INTAKE ARID AN COLICENTEA  DOSE CONVERSION FACTOR FOR INHALATION, SUBMERSION  IN MOSETION OF FLEERAL GUIDANCE REPORT NO 11)  SINCE IN BASED ON DOSEEH-0071. NOTE. THE DIFFERE  NOT ACTUALLY SIGNIFICANT.  NA  NA  NA  NA  NA  NA  NA  NA  NA  N	- 171-3700000
NA N	
0.00E+00	
7.4E-C6	
7.02E-00   1.05E-03	
PLUTONIUM AMERICIUM AMERIC	
AMERICAN AMERICAN AND AND AND AND AND AND AND AND AND A	

		AID NAC	E HAKER BL	dre hand	MIS MAKE BAKEN BOXE has a se box se as					+	-	,	+				7 7 1	1 av 1 vv	AC
WOLE—THIS ANALYSIS BASED ON EXISTING PROGRESSION FOR THE PROGRESSION OF THIS PROGRESSION FOR THIS PROGRESSION FOR	SELLTON PAISTINGS	PRICE FOLDATIONS	S AND DOES A	NOTCOMPLY	WITHINGEREE	FIRSTON STREETHIN	TANK TANK TANK TO	ATTENNATION NAMES IN	ACTURN FDA	1		+							
	± 2	AG. EQUATION	IS USED FOR	DETERMININ	3 ACTION LEVEL	RAGS EQUATIONS USED FOR DETERMINING ACTION LEVEL FOR CHEMICALS.	,	ACCOUNT IN IS I	22.00					-					
																	a, camping of the capping of the cap		
	-					BAS	BASED ON RME VALUES	UES		+		+				RADIE	RADICH OGICAL PROGRAM		* 10 mm
Κŧ	গ্ৰ	ğ			ž	ই	X.	<del>1</del>								Ų	Coll Can	170	30-2
PRG	7.8FS17.FS	-F\$12'(1-		r Kuthir inga		1000	L16)1.17*	112									2 OE	3	
*F\$9*F	=	F\$ -F10/24-10		Spectors	7 5	\$20.F12	:	1365			•					CAUE: 77.6	55		
	100	loc rayasa			[/L313	3  001-1314	214									NNA COL	NATE OF TE	8/2019	
																Carmina Sa	. 11	100100	
WORKER	1.17E-05 1.10E-03	9.00E+01		OFFICER WORKER	WORKER	2.31E-05	1.25E-02 1.83E+02	E+02	+		-					VERIEIED K	ym DAIE	CE 777/8	
Men state   St	24				TANKS OF STATES AND STATES OF STATES	2.42E-06		101							A STATE OF THE PROPERTY OF THE		_ 		3
<b>—</b>		PRG CALCI	PRG CALCULATION FOR CT	3CI						PRGCALCU	PRG CALCULATION FOR RME	4É			_		+		
					5-44 A-1	語を記述される。	**************************************				謹								
RADIONICIDE	OFFICE WORKED			OFFICE:		1000	1000	RADIONUCLD	Q.	9 S	OFFICE		1						
Pu-239	# D. T.	3.68£-03	3.13E-04	3.76E+0	8.98E-05	4 76F-08	1 595+05	Pu-239	7 755-03	6 35E-04		8 27F-04 4 96F-05							
Pu-240		3.68E-03	6.79E-04		8.98E-05	1.03E-05	1.50E+05	Pt-240	7.756-03			8.27E-04 1.08E-04	_						
U-234		1.55E-03	6 685-04		8.75E+03 4.15E-05	1.02E-05	2.90E+05	U-234	3.32E-03			3.55E-04 1.06E-04	3,25€,04						
0-238		1 865-03	8 90E-03		2 155-04	7.40E-03	5.71E+03	0-235	5.895-03	3.19E-01	8.33E+01 6.	6.6/E-04 2.50E-02 6.37E-04 1.41E-03	5.85E+02						
Am-241		9.20E-03	2.48E-02		4.42E+02 3.20E-03	3.77E-04	4.20E+03	Am-241	5.57E-02			6.54E-03 3.93E-03	1.43E+03					The state of the s	-
	A																		
The ingestion	The ingestion of surface water is not included in the evaluation since, based on	not included in th	e evaluation si	ince, based on	<del> </del>									The second secon				- American street, course on	
	the Baseline Risk Assessment it is not a significant contributor to the dose.  THE GRAXTONE ROW SECTION'S EQUATIONS ARE SHOWN.	It is not a signific	sent contributor	r to the dose	TE SHOWN BELC														
1									-(\$149-SD\$	"=(\$I49"\$D\$30+(\$J49"L15)"\$D\$31)"	a de la compa	"=(\$150-\$D\$30+(\$.150-M15)-5D\$31)"	415)-50\$31)"						
50		=(\$C49-\$D\$	=(\$C49*\$D\$30+(\$D49*F15)*\$D\$31)*	5)-50531)-	-(\$C\$0.2D\$30	-(\$C\$0.\$D\$30+(\$D\$0.G15).\$D\$31).	10.			*5K49*5D\$34*		\$K50.\$	3834						
		+		"=/\$P\$1#\/\\$E\$A+\$E\$A	٦.	-\$E50-\$D\$34-				()= -	=(5L\$18)/(\$M56+\$N56)		~(\$M\$18)/(\$P56+\$Q56)	GS6)*				The state of the s	1
					(m is		(priseprus) xoi e								And the second s	A MANUAL STREET, CAMPAGE CONTRACTOR OF THE PARTY OF THE P			1
																			:
			-																
					_						-	-	_		_	_		- control	_

\*

5

1    1    1    1    1    1    1    1		4	В	ပ	۵	ш	L	ပ	I	-	r	ス	
Pu-240   8.20E-02   7.54E-06   (cm   1.234   1.90E+01   1.75E-03   1.91   1.90E+01   1.75E-03   (cm   1.241   1.241   1.75E-03   (cm   1.75E-03   (cm		-	Pu-239		3.78E-02		3.48E-06		ASSUMES 1 SURFACE A	THAT THE TO IND THERE IS	OP 5 cm OF SC S NO CONTRI THIS DEPTH	BT(	ARE LOCATED ON THE ON FROM SOIL BELOW
U-234     8.07E-02     7.42E-06       U-235     1.91     1.90E+01     1.75E-03       U-238     1.01     1.07E+00     9.89E-05       Am-241     2.99     2.75E-04       THORIUM     "=17.1+C41"     "=D39*0,000085"       PROGENY     "=17.1+C41"     "=D39*0,000085"       DOSE FACTORS BASE ON VALUES IN DOE/EH-0070 F	7		Pu-240		8.20E-02		7.54E-06			Soil Depth	Soil Density	"= 40	1,140
U-235	က		U-234		8.07E-02		7.42E-06				,	<del></del> -	9.20E-05
1.01   1.07E+00   9.89E-05	4		U-235	1.91	1.90E+01		1.75E-03						
Am-241 2.99 2.75E-04	2		U-238	1.01			9.89E-05						Additional to the Annual Confession of the Ann
THORIUM PROGENY "=17.1+C41" "=D39*0.000085"  DOSE FACTORS BASE ON VALUES IN DOE/EH-0070 F	မှ		Am-241		2.99		2.75E-04						The second se
THORIUM PROGENY "=17.1+C41" "=D39*0.000085"  DOSE FACTORS BASE ON VALUES IN DOE/EH-0070 F	7												
DOSE FACTORS BASE ON VALUES IN DOE/EH-0070 F	∞			THORIUM	"=17.1+C41"		"=D39*0 00008	.5.		us merm)	m/nCi/vr)*1.nC	DFs(rem*	DFa(rem*g/pCi/yr)=DFa
	6									5	on (ifanail	מלמו ה	ביין ליסיפול לי
	9					DOSE FACT	FORS BASE OF	N VALUES IN	I DOE/EH-007	70 FOR AREA	L CONTAMIN	ATION	
12 13 14 15	£	14.0											A PROPERTY OF THE PROPERTY OF
13	12			To provide the second s									
14	13												The same of the sa
15	14												A THE PROPERTY OF THE PROPERTY
	15												